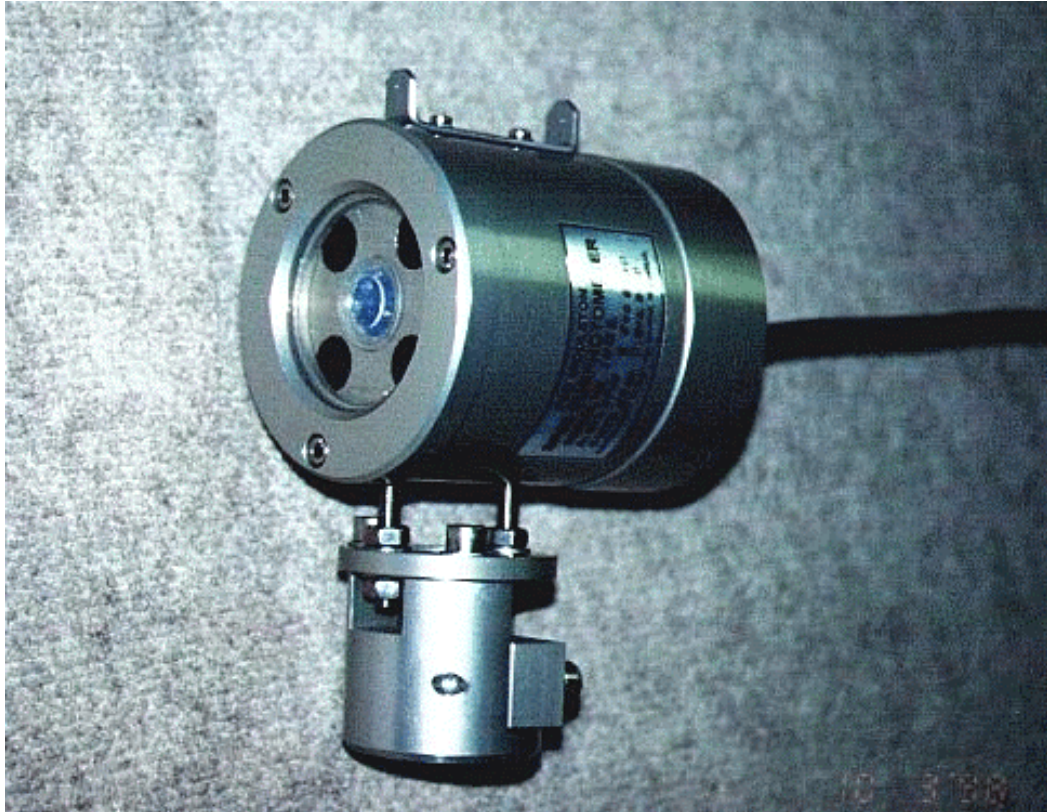


CSD Middleton SP02 SUNPHOTOMETER

Compact Instrument for Spectral Optical Depth Measurement

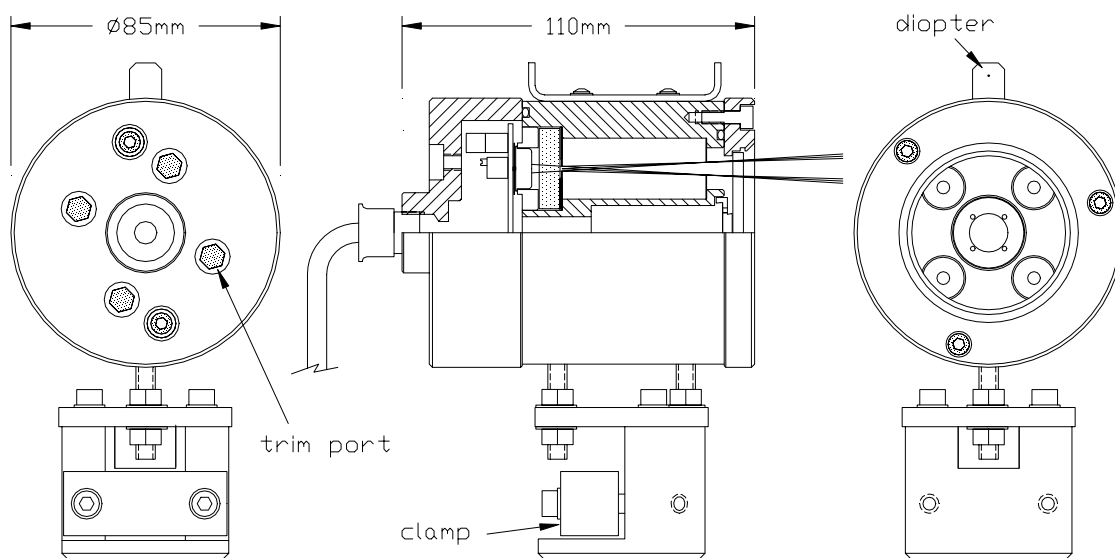


The Middleton SP02 Sunphotometer is a simple low-cost instrument for the determination of the spectral optical depth of the atmosphere. It can be configured for total & aerosol optical depth measurement, column ozone measurement, and assessment of water vapour amounts. It consists of four precision spectrophotometers axially aligned in a sealed enclosure.

- **Four narrow-bandwidth channels operate simultaneously.**
- **Low-noise signal amplifiers with negligible drift.**
- **External gain trim for each channel (via rear access ports).**
- **Large size interference filters for long-term stability.**
- **Excellent Optical Depth resolution.**
- **Temperature output for thermal response correction.**
- **Moderate power requirement (5.5 to 14.5VDC, 20mA).**
- **Compact and light-weight.**
- **Marine-grade aluminium body, hard anodised.**
- **Can be operated with manual sun-tracking, or mounted to common trackers with 1in (25.4mm) shafts (Eppley, R&I, etc).**

The SP02 can be used with most common data acquisition systems.

CSD Middleton SP02 Sunphotometer



General Specification	
spectro-pyrheliometer geometry	field of view: 5° (2.5° opening angle) slope angle: 1.6° limit angle: 3.5°
standard filters ¹ : center wavelength (all 10nm bandpass)	aerosol version: 412, 500, 675, 862nm ozone version: 368, 500, 610, 778nm water vapour version: 500, 778, 812, 862nm
cavity, size; CWL tolerance	3-cavity, Ø25mm; ±2nm
side-band blocking	OD4, UV to 1,200nm
detector type; active area	UV si-photodiode; 33mm ²
sensitivity gain setting x 4 channels	high/low by jumper; trim via multi-turn pot
output signal x 4 channels	-0.05 to +4.5 VDC max.
resolution	<0.005OD (Langley method)
response time	0.2s to 99%
operating temperature	-30°C to +70°C
power supply requirement	5.5 to 14.5VDC, 20mA
temperature output	10mV/°C (0.20V = 20°C)
desiccant	silica gel (visible thru front window)
interface lead	8-core shielded cable, 5m (free end is unterminated)
mounting method	Ø25mm (1") female clamp, with adjustable alignment
weight	1.25Kg (excluding 0.5Kg lead)

Available from:

¹ Alternative filters in the range 310 to 1,050nm are available to special order.